

Notes on Chilopoda from the Galapagos Islands.

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A study of a small collection of Chilopods from the Galapagos Islands has revealed five species, of which one, *Scolopendra galapagoensis*, has been previously reported. Of these five species, the three geophiloids are well-known forms occurring widespread in the warm regions of both hemispheres, while the two scolopendroids, so far as now known, appear to be strictly indigenous. The *Cryptops* is here described for the first time.

Whether the geophiloids mentioned may have been introduced in recent times upon ships it is difficult to say; but it seems certainly entirely possible for them to have reached the islands through other agencies than that of man. The resistance of geophiloids to submersion in both fresh and salt water is strikingly greater than that of at least some scolopendrids, this being true not only of the so-called marine forms living normally between tide-marks, such as *Hydroschendyla*, and of those of littoral habit, such as *Pectiniunguis americanus*, but also of those of essentially terrestrial habit. This superior resistance of geophiloids has been experimentally demonstrated by Plateau* who found that, while *Cryptops punctatus* had but feeble resistance to submersion in sea water, being dead after a very few hours, *Geophilus longicornis* might, under favorable temperature conditions, survive complete submersion after removal of every trace of adhering air bubbles for from 12 to 72 hours; and, similarly, that while *Cryptops* might withstand a submersion in fresh water of 6 hours, *Geophilus longicornis* and *G. sodalis* might be alive after from 6 to 15 days. It is reasonable to suppose that the resistance of forms habituated to the littoral life and to consequent frequent submersions would be found to be materially greater than that of these terrestrial species, and that, were the submersion not continuous

* Plateau, Les Myr. marins et la Résistance des Arthropodes a respiration aérienne a la submersion. Journal de l'Anat. et de la Physiologie, Paris, 1890, 26, pp. 236-269.

but intermittent, as would be the case were the specimens afloat upon drift, these might remain alive for very prolonged periods.

GEOPHILOIDEA.

FAMILY SCHENDYLIDAE.

Pectiniunguis americanus Bollman.

One female from Albemarle Island with 61 pairs of legs.

The occurrence of this species on the Galapagos Islands is not surprising, because of its littoral habits and prevalence about the Mexican coasts under piles of driftwood, etc., upon which it might easily be carried long distances by ocean currents.

FAMILY MECISTOCEPHALIDAE.

Mecistocephalus punctifrons Newport.

Two specimens from Clipperton Island.

This is a very widespread species occurring upon the Madeiras, the Bermudas, the West Indies, in Central and South America, as well as in India and the East Indies, etc. It has been recorded in part as *M. guildingi* Newport.

FAMILY ORYIDAE.

Orphnaeus bilabiatus (Newport).

One female from Hood's Island agreeing in all essentials with Central and South American specimens. A very common geophiloid in tropical America, as well as in the Hawaiian Islands, Japan and the East Indies. It has also been recorded as *O. lineatus* (Newport), *O. brasilianus* (H. & S.) and *O. brasiliensis* Meinert.

SCOLOPENDROIDEA.

FAMILY SCOLOPENDRIDAE.

Scolopendra galapagoensis. Bollman.

Specimens from Hood, Chatham, Bindloe, Narborough and Albemarle Islands.

The dorsal spines at the distal end of the prefemur of the twentieth legs vary from 5 to 9 in number, those on the immediately preceding pairs from 5 to 6, while on the anterior pairs the number is nearly always 4.

FAMILY CRYPTOPIDAE.

Cryptops navigans sp. nov.

Color yellow or yellow of dilute ferruginous cast.

Head widest near middle, from where the sides, which are convex, converge strongly caudad, more abruptly so toward corners, and also cephalad; the anterior margin convexly rounded, a little indented at middle; caudal margin straight. Sulci not evident. Hairs of moderate length, sparse.

First dorsal plate with a distinct, transverse cervical sulcus well removed from the margin of head. The sulcus is angularly bent back toward the middle, though narrowly rounded at median line. There are no paired longitudinal sulci, but there is a median longitudinal furrow as on subsequent plates.

No paired sulci evident on second plate, but these are traceable on the third and become more distinct caudad. Last plate apparently without a median sulcus.

Prosternum not manifestly punctate; without furrows. Anterior margin convex, slightly indented at middle line; bearing no bristles, but a pair of these borne one each side of median line a little distance caudad of the margin. Bristles of general surface sparse.

Ventral plates not manifestly punctate in the types. Last ventral plate with sides convex, more strongly rounding toward and about the caudal corners; caudal margin widely weakly convex or substraight across the median portion.

Coxopleurae ectocaudally subtruncate, the inner portion of caudal margin extending obliquely mesocephalad to inner edge. Bearing along caudal edge several spines and toward mesal border two or three long stout spinescent bristles.

Spiracles of medium size; circular.

Tarsi of anterior legs uniarticulate, or not movably articulate. Not armed with spines. Hairs sparse.

Prefemur of anal legs with numerous spines over surface, a longitudinal smooth area on mesal surface. Femur similarly armed, but with spines fewer on and toward dorsal surface, where they are replaced by simple hairs; also bearing on ventral surface toward distal end a single acute tooth. Tibia bearing on mesal side three spines and on ventral surface a longitudinal series of four teeth, which increase in size distad; otherwise bearing simple hairs. First tarsal joint bearing ventrally two teeth, of which the more distal is much the larger, otherwise clothed with simple hairs. Second tarsal joint bearing only hairs.

Length, 11 mm.

Locality.—Clipperton Island. Two specimens.